## REMARKS

This communication is in response to the non-final Office Action ("Office Action") mailed on September 16, 2008 in which claims 1-16 and 30-34 were pending. In the Office Action, claims 1-11, 13-16, and 30-34 were rejected and claim 12 was indicated to be allowable if rewritten into independent form. Applicants respectfully request reconsideration and allowance of pending claims 1-16 and 30-34, in light of the amendments and in view of the arguments presented below.

### 1. Allowable Subject Matter

Applicants respectfully thank the Examiner for the indication of allowable subject matter with respect to claim 12, at page 11, paragraph 9 of the Office Action and at page 12, paragraph 9 of the non-final Office Action mailed on March 3, 2008. Specifically, the Office Action indicates that claim 12 would be allowable if rewritten into independent form including all of the limitations of the base claim and any intervening claims.

Claim 31 was added in the previous response. **Independent claim 31 is claim 12 rewritten into independent form including all of the elements of the base claim and any intervening claims**. Accordingly, claim 31 is allowable. Further, claims 32-34 depend from claim 31, and are allowable at least by virtue of their dependency from allowable claim 31. Accordingly, claims 31-34 are allowable, and reconsideration and notice to that effect is respectfully requested.

### 2. Claims 1, 6, 7, 11, 13, and 31 Are Allowable over Rouphael, Ueda, and Haunstein

Applicants respectfully traverse the rejection of claims 1, 6, 7, 11, 13, and 31 under 35 U.S.C. §103(a) over U.S. Patent Publication No. 2003/0138040 ("Rouphael") in view of U.S. Patent No. 5,644,597 ("Ueda") and U.S. Patent Publication No. 2003/0142740 ("Haunstein"), at pages 2-5, paragraph 3 of the Office Action.

The asserted combination of Roupael, Ueda, and Haunstein fails to disclose or suggest "receiving a signal comprising a plurality of bit patterns at a bank of equalizers, each equalizer in the bank of equalizers tuned to a different bit pattern with a corresponding equalization target during normal operation," as recited in claim 1. In contrast, Rouphael discloses multiple equalizers, which equalizers are only operative in parallel after a threshold error is exceeded, and then one is selected and remains operating while the others are deactivated. In particular, Rouphael discloses "during normal operation only one branch, e.g. feedback equalizer 30, is operative." *See Rouphael*, p. 2, paragraph [0019]. Further, Rouphael discloses that one or more other equalizers are activated after an error threshold is exceeded, triggering two or more equalizers to operate in parallel. *See Rouphael*, p. 2, paragraph [0019]. Additionally, Rouphael discloses that once a decision is made, an equalizer is selected that remains operating and becomes the selected equalizer until the error threshold is again exceeded. *See Rouphael*, p. 3, paragraphs [0019] and [0026]. While Rouphael discloses that multiple split paths can be used with multiple parallel feedback equalizers that work with different sets of parameters, Rouphael discloses that only one equalizer is operable during normal operation, and that the other equalizers are triggered to operate during an evaluation (decision) process. *See Rouphael*, p. 2, paragraphs [0019], [0022], and [0023]. Further, Rouphael discloses that, even when implemented in software, "the software solution needs to process data only for one equalizer, e.g., equalizer 130 until the error threshold, e.g., the number of consecutive ambiguous values or any other available threshold value is exceeded." *See Rouphael*, p. 4, paragraph [0035]. Rouphael fails to disclose or suggest "receiving a signal comprising a plurality of bit patterns at a bank of equalizers, each equalizer in the bank of equalizers tuned to a different bit pattern with a corresponding equalization target during normal operation," as recited in claim 1.

Ueda fails to overcome the deficiencies of Rouphael. In particular, Ueda discloses a decision feedback adaptive equalizer and a linear adaptive equalizer. *See, e.g.*, *Ueda*, Figures 1 and 10, col. 19, line 60 to col. 20, line 3. Ueda discloses that the linear adaptive equalizer is the same as the decision feedback adaptive equalizer, except that the feedback section is removed. *See Ueda*, col. 20, lines 1-3. Ueda discloses that the linear and decision feedback adaptive

equalizers are configured to converge the tap coefficients (*see, e.g., Ueda*, col. 20, lines 27-31 and lines 40-44); however, Ueda does not disclose or suggest that "each equalizer in the bank of equalizers tuned to a different bit pattern with a corresponding equalization target during normal operation," as recited in claim 1. The Office cites col. 31, line 21 to col. 32, line 9 of Ueda and asserts that Ueda discloses this feature. However, the cited paragraphs of Ueda refer to a dual receiver system that includes two antennas to receive and equalize two signals using the adaptive equalizers, which are not tuned to different bit patterns. Accordingly, Ueda fails to disclose or suggest that the equalizers are tuned to different bit patterns, as recited in claim 1.

Further, Haunstein fails to overcome the deficiencies of Rouphael and Ueda. In particular, Haunstein discloses that "the sampling instant may be tuned in dependence of the sequence or pattern of preceding bits." *See Haunstein*, p. 1, paragraph [0013]. In particular, Haunstein discloses tuning the equalizer based on a sampling phase of a preceding bit. Not only does Haunstein not disclose a bank of equalizers, but Haunstein fails to disclose or suggest a bank of equalizers tuned to different bit patterns, as recited in claim 1.

Accordingly, the asserted combination of Rouphael, Ueda, and Haunstein does not disclose or suggest at least one element of claim 1, and of claims 2-6, at least by virtue of their dependency from allowable claim 1. Therefore, the rejection of claims 1 and 6 over Rouphael, Ueda, and Haustein should be withdrawn.

The asserted combination of Rouphael, Ueda, and Haunstein fails to disclose or suggest "processing a segment of a received signal in a bank of equalizers, each equalizer tuned to a different bit pattern and an equalization target to produce an equalized output for each equalizer during normal operation," as recited by claim 7. As discussed above, Rouphael discloses that only one equalizer is operable during normal operation, and that the other equalizers are triggered to operate during an evaluation (decision) process. *See Rouphael*, p. 2, paragraphs [0019], [0022], and [0023]. Ueda discloses adaptive equalizers, but does not disclose or suggest that the adaptive equalizers are tuned to different bit patterns. Haunstein fails to overcome the deficiencies of Rouphael and Ueda. Instead, Haustein discloses only one equalizer and that the

sampling instant or the bit decision threshold is tunable based on a sampling phase of a previous bit (*See Haunstein*, p. 1, paragraph [0013], and p. 2, paragraphs [0017] and [0030]), but does not disclose or suggest suggest a bank of equalizers tuned to different bit patterns, as recited in claim 7.

Thus, the asserted combination of Rouphael, Ueda and Haunstein fails to disclose or suggest at least one element of claim 7, and of claims 11 and 13, at least by virtue of their dependency from allowable claim 7. Therefore, the rejection of claims 7, 11, and 13 over Rouphael, Ueda and Haunstein should be withdrawn.

Claim 31 is allowable over Rouphael, Ueda, and Haunstein. First, claim 31 is claim 12 rewritten into independent form, including all of the elements of the base claim (claim 7) and the intervening claim (claim 11). The Office has twice acknowledged that claim 12 would be allowable if rewritten into independent form. Claim 31 is claim 12 rewritten into independent form. Accordingly, claim 31 is allowable. Further, claims 32-34 are allowable, at least by virtue of their dependency from allowable claim 31. Therefore, all of the claims 31-34 are in condition for allowance, and reconsideration and notice to that effect is respectfully requested.

Further, with respect to claim 31, the asserted combination of Rouphael, Ueda, and Haunstein fails to disclose or suggest "tuning each equalizer of a bank of equalizers to a bit pattern, wherein tuning each equalizer includes selecting an equalizer from the bank of equalizers, sending known data to the selected equalizer, calculating a difference between an output signal from the selected equalizer and a target output signal, and tuning the selected equalizer to reduce the difference." The cited references, alone or in combination, including Rouphael, Ueda, and Haunstein fail to disclose or suggest this feature. Accordingly, claim 31 is allowable over the cited references. Further, claims 32-34 are allowable, at least by virtue of their dependency from allowable claim 31.

For at least the foregoing reasons, the rejection of claims 1, 6, 7, 11, 13, and 31 are allowable over the asserted combination of Rouphael, Ueda, and Haunstein. Therefore, the rejection of claims 1, 6, 7, 11, 13, and 31 should be withdrawn.

**3. Claims 2-3 Are Allowable over Rouphael and Cideciyan**

Applicants respectfully traverse the rejection of claims 2-3 under 35 U.S.C. §103(a) over Rouphael in view of U.S. Patent No. 6,460,150 ("Cideciyan") at pages 5-6, paragraph 4 of the Office Action.

Claims 2 and 3 depend from independent claim 1. The asserted combination of Rouphael and Cideciyan fails to disclose or suggest "receiving a signal comprising a plurality of bit patterns at a bank of equalizers, each equalizer in the bank of equalizers tuned to a different bit pattern with a corresponding equalization target during normal operation," as recited in claim 1. As discussed above, Rouphael discloses that only one equalizer is operable during normal operation, and that the other equalizers are triggered to operate during an evaluation (decision) process. *See Rouphael*, p. 2, paragraphs [0019], [0022], and [0023]. Cideciyan fails to overcome the deficiencies of Rouphael. In particular, Cideciyan discloses a digital equalizer that shapes the output of the A/D converter to partial-response signal samples, which are provided to a partial response maximum likelihood (PRML) detector. *See Cideciyan*, col. 3, line 58 to col. 4, line 2. Cideciyan fails to disclose or suggest "a bank of equalizers, each equalizer in the bank of equalizers tuned to a different bit pattern with a corresponding equalization target during normal operation," as recited in claim 1. Accordingly, the asserted combination of Rouphael and Cideciyan fails to disclose or suggest at least one element of claim 1, and of claims 2-3, at least by virtue of their dependency from allowable claim 1. Therefore, the rejection of claims 2-3 over Rouphael and Cideciyan should be withdrawn.

**4. Claims 4-5, 9-10, 14, and 33-34 Are Allowable over Rouphael and Moon, et al.**

Applicants respectfully traverse the rejection of claims 4-5, 9-10, and 14 under 35 U.S.C. §103(a) over Rouphael in view of "Pattern-Dependent Noise Prediction in Signal-Dependent Noise," IEEE Journal on Selected Areas in Communications, vol. 19, no. 4, April 2001 ("Moon, et al.") at pages 7-9, paragraph 5 of the Office Action.

Claims 4-5 depend from allowable claim 1. The asserted combination of Rouphael and Moon, et al. fails to disclose or suggest receiving a signal comprising a plurality of bit patterns at a bank of equalizers, each equalizer in the bank of equalizers tuned to a different bit pattern with a corresponding equalization target during normal operation," as recited in claim 1. The Office acknowledges that Rouphael fails to disclose or suggest this feature. *See, e.g., the Office Action*, p. 2, paragraph 3. Moon, et al. fails to overcome the deficiencies of Rouphael. In particular, Moon, et al. is directed to a technique for pattern-dependent noise prediction. *See Moon, et al.*, p. 730, Abstract. In particular, Moon, et al. discloses that a linear prediction is used, which allows for immediate and intuitive derivation of the branch metric. *See Moon, et al.*, p. 730, col. 2, lines 5-6. Moon, et al. discloses that the detector assumes an equalized channel output vector that includes a signal vector and a noise vector, both of which depend on the input bit sequence. *See Moon, et al.*, p. 731, col. 1, lines 1-7. However, Moon, et al. does not disclose or suggest "a bank of equalizers," as recited in claim 1. Instead, Moon, et al. discloses that the Viterbi-like algorithm is implemented on a finite trellis, which can be characterized by a finite segment of the specific bit sequence, which allows for the determination of "optimal predictors and their variances." *See Moon, et al.*, p. 731, lines 13-23. In Moon, et al., the decoder is modeled by the statistical formulas, but the specific implementation of the decoder is not described. For Example, in Figure 1 of Moon et al., a noise model is represented that includes additive white Gaussian noise representing random position jitter and width variation, but does not illustrate or suggest multiple equalizers, but rather a noise model that incorporates multiple noise sources. While Moon, et al. discloses multiple noise predictor taps that can be trained, either using a model or using real data, Moon discloses that, at each cycle, only one predictor is selected based on the known bit pattern and its taps are adjusted in the direction of minimizing the corresponding bit error. *See Moon, et al.*, p. 740, col. 2, lines 5-8. Further, Moon, et al. discloses

a pattern dependent equalizer, but does not disclose or suggest a bank of pattern dependent equalizers, where "each equalizer in the bank of equalizers tuned to a different bit pattern with a corresponding equalization target during normal operation," as recited in claim 1. Accordingly, the asserted combination of Rouphael and Moon, et al. fails to disclose or suggest at least one element of claim 1, and of claims 4-5, at least by virtue of their dependency from allowable claim 1.

Claims 9-10 and 14 depend from allowable claim 7. The asserted combination of Rouphael and Moon, et al. fails to disclose or suggest "processing a segment of a received signal in a bank of equalizers, each equalizer tuned to a different bit pattern and an equalization target to produce an equalized output for each equalizer during normal operation," as recited by claim 7. As discussed above, Rouphael discloses that only one equalizer is operable during normal operation, and that the other equalizers are triggered to operate during an evaluation (decision) process. *See Rouphael*, p. 2, paragraphs [0019], [0022], and [0023]. Moon, et al. fails to overcome the deficiencies of Rouphael. Moon, et al. fails to overcome the deficiencies of Rouphael. In particular, Moon, et al. is directed to a technique for pattern-dependent noise prediction. *See Moon, et al.*, p. 730, Abstract. In particular, Moon, et al. discloses that a linear prediction is used, which allows for immediate and intuitive derivation of the branch metric. *See Moon, et al.*, p. 730, col. 2, lines 5-6. Moon, et al. discloses that the detector assumes an equalized channel output vector that includes a signal vector and a noise vector, both of which depend on the input bit sequence. *See Moon, et al.*, p. 731, col. 1, lines 1-7. However, Moon, et al. does not disclose or suggest "a bank of equalizers," as recited in claim 1. Instead, Moon, et al. discloses that the Viterbi-like algorithm is implemented on a finite trellis, which can be characterized by a finite segment of the specific bit sequence, which allows for the determination of "optimal predictors and their variances." *See Moon, et al.*, p. 731, lines 13-23. In Moon, et al., the decoder is modeled by the statistical formulas, but the specific implementation of the decoder is not described. While Moon, et al. discloses multiple noise predictor taps that can be trained, either using a model or using real data, Moon discloses that, at each cycle, only one predictor is selected based on the known bit pattern and its taps are adjusted in the direction of

minimizing the corresponding bit error. *See Moon, et al.*, p. 740, col. 2, lines 5-8. Further, Moon, et al. does not disclose or suggest "processing a segment of a received signal in a bank of equalizers, each equalizer tuned to a different bit pattern and an equalization target to produce an equalized output for each equalizer during normal operation," as recited in claim 7. Accordingly, the asserted combination of Rouphael and Moon, et al. fails to disclose or suggest at least one element of claim 7, and of claims 9-10 and 14, at least by virtue of their dependency from allowable claim 7. Therefore, the rejection of claims 9-10 and 14 over Rouphael and Moon, et al. should be withdrawn.

Claims 33-34 depend from allowable claim 31. As previously discussed, the Office has twice acknowledged that claim 12 would be allowable if rewritten into independent form. In particular, the Office states:

> Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*See, e.g., Office Action*, p. 11, paragraph 9.

With the previous response, new claim 31 was added. Claim 31 is claim 12 rewritten into independent form. Accordingly, the Office has admitted that claim 31 is allowable. Claims 33-34 depend from allowable claim 31. Accordingly, claims 33-34 are also allowable over the cited references.

Further, with respect to claim 33-34, the asserted combination of Rouphael and Moon et al. fails to disclose or suggest "tuning each equalizer of a bank of equalizers to a bit pattern, wherein tuning each equalizer includes selecting an equalizer from the bank of equalizers, sending known data to the selected equalizer, calculating a difference between an output signal from the selected equalizer and a target output signal, and tuning the selected equalizer to reduce the difference," as recited in claim 31. The Office acknowledges that Rouphael does not disclose or suggest this feature. *See, e.g., the Office Action*, p. 11, paragraph 9, and p. 2, paragraph 3.

Moon et al. fails to overcome the deficiencies of Rouphael. Instead, in Figure 1 of Moon et al., a noise model is represented that includes additive white Gaussian noise representing random position jitter and width variation, but does not illustrate or suggest multiple equalizers, but rather a noise model that incorporates such noise sources. Accordingly, the asserted combination of Rouphael and Moon, et al. fails to disclose or suggest at least one element of claim 31, and of claims 33-34, at least by virtue of their dependency from allowable claim 31.

Further, claim 33 recites "wherein the equalized output is used in sequence detection according to the bit pattern associated with the equalizer for each equalizer of the bank of equalizers." Claim 34 recites "wherein a number of equalizers in the bank of equalizers is determined by a maximum number of possible states for a selected pattern window." While Moon et al. discloses calculating a path metric for every possible path, the asserted combination of Rouphael and Moon et al. fails to disclose or suggest the bank of equalizers tuned to different equalization targets, wherein the equalized output is used in sequence detection according to the bit pattern associated with the equalizer for each equalizer of the bank of equalizers, or wherein the number off equalizers is determined by a maximum number of possible states for a selected pattern window, as recited in claims 33 and 34. Accordingly, the asserted combination of Rouphael and Moon et al. fails to disclose or suggest all of the elements of claims 33 and 34.

For at least the foregoing reasons, claims 4-5, 9-10, 14, and 33-34 are allowable over the cited references, alone or in combination. Therefore, the rejection of claims 4-5, 9-10, 14, and 33-34 should be withdrawn.

**5. Claims 8 and 32 is Allowable over Rouphael and Kwon**

Applicants respectfully traverse the rejection of claims 8 and 32 under 35 U.S.C. §103(a) over Rouphael in view of U.S. Patent Publication No. 2004/0156459 ("Kwon") at pages 9-10, paragraph 6 of the Office Action.

With respect to claim 32, Applicants note that the Office has twice indicated claim 12 to be allowable if rewritten into independent form. Claim 32 depends from claim 31, which is claim 12 rewritten in independent form. Accordingly, at least by virtue of its dependency from allowable claim 31, claim 32 is also allowable over the cited references, alone or in combination.

Further, Claim 8 depends from independent claim 7. The asserted combination of Rouphael and Kwon fails to disclose or suggest "processing a segment of a received signal in a bank of equalizers, each equalizer tuned to a different bit pattern and an equalization target to produce an equalized output for each equalizer during normal operation," as recited by claim 7. As discussed above, Rouphael discloses that only one equalizer is operable during normal operation, and that the other equalizers are triggered to operate during an evaluation (decision) process. *See Rouphael*, p. 2, paragraphs [0019], [0022], and [0023]. Kwon fails to overcome the deficiencies of Rouphael. Instead, Kwon discloses a single equalizer, illustrated in Figure 4, and described at page 2, paragraph [0038] to page 3, paragraph [0050]. In Kwon, the equalizer of Figure 4 calculates correlations between "field synch signal" and a "received signal" and "predicts a signal having more than a threshold value as multi-path by means of a pre-determined algorithm." *See Kwon*, p. 2, paragraph [0041]. Kwon is directed to filtering "pre-ghosts" and "post-ghosts" from the received signal (shadows or reflections in the received signal), and the error values are used to repeatedly update the filter. *See Kwon*, p. 3, paragraph [0050]. With respect to FIG. 5, Kwon describes only a single equalizer. *See Kwon*, p. 3, paragraph [0051] to p. 4, paragraph [0066]. Kwon fails to disclose or suggest "a bank of equalizers," as recited in claim 7. Further, Kwon fails to disclose or suggest "processing a segment of a received signal in a bank of equalizers, each equalizer tuned to a different bit pattern and an equalization target to produce an equalized output for each equalizer during normal operation," as recited by claim 7. Accordingly, the asserted combination of Rouphael and Kwon fails to disclose or suggest at least one element of claim 8, at least by virtue of its dependency from allowable claim 7.

Further, the Office acknowledges that Rouphael fails to disclose or suggest "dividing the segment of the received signal into finite overlapped segments and calculating an equalized

output for each of the finite segments with the bank of equalizers," as recited in claims 8 and 32. *See Office Action*, p. 9, paragraph 6. The Office asserts that Kwon discloses this feature. *See Office Action*, p. 9, paragraph 6. While Kwon discloses that the equalizer can include an "overlapped feed forward filter" (*see Kwon*, p. 3, paragraph [0053]), that the feed forward filter can have "an overlap characteristic" (*see Kwon*, p. 3, paragraph [0061]), and that the feed forward unit has "an overlap characteristic that compensates for a pre-determined number of post-ghosts (*see Kwon*, p. 4, paragraph [0067]), Kwon does not disclose "dividing a segment of the received signal into finite overlapped segments," as recited in claim 8. Further, Kwon does not disclose "calculating an equalized output for each of the finite segments with the bank of equalizers," as recited in claims 8 and 32. In contrast, Kwon discloses only a single equalizer and a filtered output from a single equalizer. Accordingly, the asserted combination of Rouphael and Kwon fails to disclose or suggest at least one element of each of claims 8 and 32.

Accordingly, the asserted combination of Rouphael and Kwon does not disclose or suggest all of the elements of claims 8 and 32, or of claims 7 and 31 from which claims 8 and 32 depend. Therefore, the rejection of claims 8 and 32 over Rouphael and Kwon should be withdrawn.

**6. Claim 15 is Allowable over Rouphael and Ojard**

Applicants respectfully traverse the rejection of claim 15 under 35 U.S.C. §103(a) over Rouphael in view of U.S. Patent Publication No. 2005/0031061 ("Ojard") at page 10, paragraph 7 of the Office Action.

Claim 15 depends from allowable claim 7. The asserted combination of Rouphael and Ojard fails to disclose or suggest "processing a segment of a received signal in a bank of equalizers, each equalizer tuned to a different bit pattern and an equalization target to produce an equalized output for each equalizer during normal operation," as recited by claim 7. As discussed above, Rouphael discloses that only one equalizer is operable during normal operation, and that the other equalizers are triggered to operate during an evaluation (decision) process. *See*

*Rouphael*, p. 2, paragraphs [0019], [0022], and [0023]. Ojard fails to overcome the deficiencies of Rouphael. Ojard discloses a single decision feedback equalizer. *See Ojard*, p. 5, paragraph [0060]; p. 10, paragraph [0115]; and p. 11, paragraph [0121]. In general, Ojard discloses that the feedback equalizer receives the output from a noise whitening filter and provides an input to a summing node. *See Ojard*, p. 11, paragraph [0121]. Ojard discloses that insertion of white noise can reduce noise power. *See Ojard*, p. 10, paragraph [0015]. However, Ojard fails to disclose or suggest "a bank of equalizers," as recited in claim 7. Further, Ojard fails to disclose or suggest "processing a segment of a received signal in a bank of equalizers, each equalizer tuned to a different bit pattern and an equalization target to produce an equalized output for each equalizer during normal operation," as recited by claim 7. Accordingly, the asserted combination of Rouphael and Ojard does not disclose or suggest at least one element of claim 7, or of claim 15, at least by virtue of its dependency from allowable claim 7. Therefore, the rejection of claim 15 should be withdrawn.

**7. Claim 16 is Allowable over Rouphael and Linnertz**

Applicants respectfully traverse the rejection of claim 16 under 35 U.S.C. §103(a) over Rouphael in view of U.S. Patent Publication No. 2002/0181549 ("Linnertz") at pages 10-11, paragraph 8 of the Office Action.

Claim 16 depends from allowable claim 7. The asserted combination of Rouphael and Linnertz fails to disclose or suggest "processing a segment of a received signal in a bank of equalizers, each equalizer tuned to a different bit pattern and an equalization target to produce an equalized output for each equalizer during normal operation," as recited by claim 7. As discussed above, Rouphael discloses that only one equalizer is operable during normal operation, and that the other equalizers are triggered to operate during an evaluation (decision) process. *See Rouphael*, p. 2, paragraphs [0019], [0022], and [0023]. Linnertz fails to overcome the deficiencies of Rouphael. In particular, Linnertz discloses that "the receiver further comprising an equalizer for canceling intercarrier interference included in the received multicarrier signal in dependence on the estimated amplitudes and derivatives, wherein the channel estimator and/or

the equalizer are arranged for exploiting an amplitude correlation between the amplitudes of different subcarriers and/or for exploiting a derivative correlation between the derivatives of different subcarriers." *See Linnertz*, p. 1, paragraph [0006] (emphasis added). Further, Linnertz discloses that the equalizer is used to cancel interference, but does not disclose a bank of equalizers. Linnertz discloses:

> equalizer 24 cancels intercarrier interference which may be included in the received multicarrier signal. The equalizer 24 outputs vectors of estimated symbols 25 (which have been derived from the vectors of received symbols) to a (soft) slicer 26.

*See Linnertz*, p. 4, paragraph [0045].

Linnertz does not disclose or suggest "a bank of equalizers," as recited in claim 7. Further, Linnertz fails to disclose or suggest "processing a segment of a received signal in a bank of equalizers, each equalizer tuned to a different bit pattern and an equalization target to produce an equalized output for each equalizer during normal operation," as recited by claim 7. Accordingly, the asserted combination of Rouphael and Linnertz fails to disclose or suggest at least one element of claim 7, and of claim 16, at least by virtue of its dependency from allowable claim 7. Therefore, the rejection of claim 16 should be withdrawn.

## CONCLUSION

Applicants have pointed out and specifically identified elements of the claims that are not disclosed or suggested by the cited references, alone or in combination. Further, Applicants have identified claim 31 as being claim 12 rewritten into independent form, including all of the elements of the base claim and any intervening claims, which claim 12 has already been acknowledged as being allowable over the cited references, alone or in combination. With this response, all of pending claims 1-16, 30, and 31-34 are in condition for allowance. Reconsideration and notice to that effect are respectfully requested.

The Examiner is invited to contact the undersigned attorney at the telephone number listed below if such a call would in any way facilitate allowance of this application. The Director

is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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